A MALFORMATION IN LACHNOSTERNA.

By Wm. P. Hayes, Assistant Entomologist, Kansas State Agricultural Experiment Station.[1]

While rearing white grubs and beetles of the genus *Lachnosterna* from material collected in the fields, an unusual malformation of the prothorax of an adult *Lachnosterna crassissima*

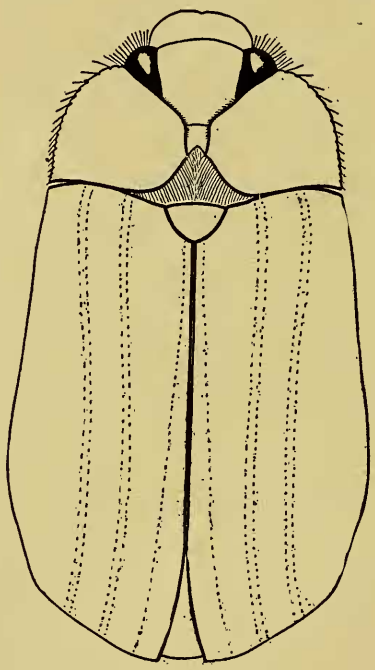

Fig. 1.

Blanch. came under the writer's observation. The specimen was collected in the larval stage behind the plow in sod-land on the campus of the Kansas State Agricultural College on August 12, 1920, along with several hundred other grubs. It was placed

[1] Contribution from the Entomological Laboratory, Kansas State Agricultural College, No. 60. This paper embodies the results of some of the investigations undertaken by the writer in the prosecution of project No. 100 of the Kansas Agricultural Experiment Station.

alone in a one ounce salve box and fed grains of wheat. Nothing unusual concerning the grub was noted at the time and no special care was given it, and as far as the writer knows it received no rougher treatment, which might cause a malformation, than any of the others collected at the same time. Some of these grubs have matured and others are alive at the time of writing.

The time at which the prepupal condition was assumed was not noted. On August 25, 1920, pupation occurred and no unusual condition of the prothorax was observed. Exactly one month later (September 25) the beetle emerged from its pupal "skin," which was shed normally.

The tergum of the prothorax was found to be divided longitudinally, as shown in Fig. 1. Otherwise, the beetle had developed normally and was kept alive until the full adult coloration was assured, when it was placed in a cyanide bottle and killed.

At the nearest points of the mesal margins of the divided tergum, there is an intervening space of approximately one millimeter.

The mesal margins are not jagged but smooth and closely resemble the caudal margins. For a short distance the margins are nearly parallel, but soon diverge both caudad and cephalad to form well-rounded edges. The caudal divergence leaves a considerable portion of the mesothorax exposed, showing the hirsute nature of this region lying immediately under the caudal margin of a normal specimen. An examination of other specimens shows the cephalic margin of the mesothorax to be straight and at right angles to the longitudinal axis of the body. In this form it appears sharply angulate with the apex of the angle pointing cephalad.

Between the parallel mesal margins and cephalad of the mesothorax can be seen a considerable portion of the cervical membrane. The margins of the anterior divergence are less rounded than those of the posterior divergence, and where the margins approach the head rather prominent angles are found. The row of fine golden-colored hairs normally found on the

anterior margin are present and extend into the separation almost to the mesothorax.

On each half of the tergum near the cephalomesal angles, there is a short and rather deep punctured depression. These are represented in the illustration by the dotted lines. Slightly caudad of the right depression is the small, smooth, impunctate area, representing the short impunctate median line found in the normal beetle. No trace of it is found on the left side.

The writer can make no explanation of this division of the prothorax, but wishes to call attention to the fact that an examination of a normal specimen of the species reveals on the ental surface of the protergum an arrangement of the points of origin of the large, conical shaped, dorsoventral muscles which, in a measure, correspond, on their mesal points of origin, to the general outline of the mesal margins of the divided protergum. Can muscular stress have played an important rôle in causing this division? A second question naturally follows the first. What is the significance of the median longitudinal impunctate line so common in many insects? May it not represent the fusion of sutures in some ancestral form and may not the case in hand be a reversion to type?

A NEW LIXUS FROM NEW JERSEY.

By H. C. Fall, Tyngsboro, Mass.

Lixus bischoffi n. sp.

Form elongate, parallel, but rather stout; black, lustre dull, surface thinly clothed, as in *concavus,* with very short appressed ashy white squamiform hairs, which are feebly and finely mottled on the elytra, and become abruptly denser at the sides of the prothorax. Antennæ (♀ ?) inserted slightly behind the apical two-fifths of the beak, 2d funicular joint slightly longer and just perceptibly narrower than the first, equal in length to the next two; club rather stout, equal in length to the preceding four joints, and scarcely longer than half the funicle. Beak as long as the prothorax, cylindrical, moderately arcuate, finely feebly punctate apically,